Polycyclic aromatic hydrocarbons (PAHs) are organic molecules found in the environment. The PAHs are formed from incomplete combustion, are found in diesel exhaust particles, grilled foods, gas burners, emission from wood, and cigarette smoke. These compounds are known to be carcinogenic and mutagenic. Spectroscopic studies were performed on two PAHs, 9,10-dihydrobenzo(a)pyrene and 7,8,9,10-tetrahydrobenzo(a)pyrene, which helped to characterize them. Also, a theoretical infrared spectrum was done on 9,10-dihydrobenzo(a)pyrene-7(8H)-one and 7,8,9,10-tetrahydrobenzo(a)pyrene.

Infrared Spectra

These experiments helped characterize these compounds with various spectroscopic techniques, so that we can understand them more and how they interact in the environment. The scaling factor was found to be 0.98 for the simulated infrared spectrum.

Conclusions

Future Work

• Chromatographic Studies of PAHs on the GC/MS and the HPLC.
• Study of signaling pathways in cells on challenge to PAHs

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References